

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.  
Larsen

---

January 1924

## Test 106: Hart-Parr 16-30

Tractor Museum

University of Nebraska-Lincoln, [TractorMuseumArchives@unl.edu](mailto:TractorMuseumArchives@unl.edu)

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Applied Mechanics Commons](#)

---

Museum, Tractor, "Test 106: Hart-Parr 16-30" (1924). *Nebraska Tractor Tests*. 727.

<https://digitalcommons.unl.edu/tractormuseumlit/727>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

# UNIVERSITY OF NEBRASKA AGRICULTURAL ENGINEERING DEPARTMENT

## AGRICULTURAL COLLEGE, LINCOLN

### Copy of Report of Official Tractor Test No. 106

Dates of test: October 14th to 23rd, 1924  
 Name, model and rating of tractor: Hart-Parr 16 - 30  
 Serial No. Engine: 22509 Serial No. Chassis: 22509  
 Manufacturer: Hart-Parr Company, Charles City, Iowa.  
 Tractor Equipment used: Stromberg MB3 carburetor. KW-T magneto.  
 Style and dimensions of wheel lugs: Spade 3-1/2" high, 4" wide.

### BRAKE HORSE POWER TESTS

H. P.	Crank	Time	Fuel Consumption	Water Consumption	Temp.	
Dev.	Shaft	of	Kind	Gals. Per Hour	Deg. F	
	Speed	Test	of	per	Hrs. C	ing
	R.P.M.	Min.	Fuel	Hour	Gal.	

### RATED LOAD TEST

30.33	: 751	: 120	: Kero	: 3.320	: 9.15	: 1.464	: ***	: 1.464	: 194	: 90	: 55	: 28.97
Belt Slippage 0.94%												

### \*\* VARYING LOAD TEST

30.39	: 754.0	: 10	: Kero	:	:	:	:	:	:	:	:	:
31.00	: 750.5	: 10	: "	:	:	:	:	:	:	:	:	:
1.20	: 782.5	: 10	: "	:	:	:	:	:	:	:	:	:
7.61	: 771.5	: 10	: "	:	:	:	:	:	:	:	:	:
15.53	: 770.5	: 10	: "	:	:	:	:	:	:	:	:	:
23.24	: 767.0	: 10	: "	:	:	:	:	:	:	:	:	:
18.38	: 765.0	: 60	: "	: 2.773	: 6.63	: 0.652	: ***	: 0.652	: 186	: 90	: 53	: 28.95

### MAXIMUM LOAD TEST

37.03	: 751.0	: 60	: Kero	: 4.596	: 8.06	: 2.290	: ***	: 2.290	: 192	: 89	: 53	: 28.91
Belt Slippage 1.30%												

### HALF LOAD TEST

15.54	: 759.0	: 60	: Kero	: 2.302	: 5.75	: 0.00	: 0.00	: 0.00	: 188	: 90	: 53	: 28.92
Belt Slippage 0.65%												

\*Taken in discharge line from engine.

\*\*The last line is an average for the hour.

\*\*\*The water used with the fuel was taken from the cooling system.

REMARKS: The kerosene used as fuel in this test weighed 6.78 pounds per gallon.

Copy of Report of Official Tractor Test No. 106.

DRAWBAR HORSE POWER TESTS

H. P.	Draw	Speed	Crank	Slip	Fuel Consumption	Water	Temp. Deg. F.						
Dev.	Bar	Miles	Shaft	On	Kind	Amt.	H.P.	Used	Cooling	Air	Average	Height of	
	Pull	Per	Speed	Drive	Used	Per	Hr.	Per	Fluid		Humidity	Barometer	
	Pounds	Hour	R.P.M.	Wheels		Hour	Per	Hour	*		%	In Inches	
				% ***		Gal.	Gal.	Gal.					

RATED LOAD TEST. TEN HOURS

16.79	2097	3.00	740	7.85	Kero	3.3121	5.07	1.645	185	77	34	28.85	
-------	------	------	-----	------	------	--------	------	-------	-----	----	----	-------	--

MAXIMUM LOAD TEST

24.79	3320	2.80	745	14.74	Kero	--NOT RECORDED--			168	64	31	28.90	
18.66	4913	1.42	761	38.96	"	"	"	"	158	70	31	28.90	

\* Taken in discharge line from engine.

\*\*\* The first figure denotes slippage at the rim of the wheel. The second figure denotes slippage at the points of the lugs.

REMARKS: The rated load and first maximum tests were run in high gear. The second maximum test was run in low gear.

OIL CONSUMPTION: During the complete test consisting of about 38 hours running the following oil was used:

For the engine, 6-1/4 gallons of Mobiloil "B" of which 1/4 gallon was put in crank case and 6 gallon in lubricator.

For the transmission, None.

Copy of Report of Official Tractor Test No. 106.

#### REPAIRS AND ADJUSTMENTS

During the low speed maximum drawbar test the shift gear would not stay in mesh unless the shift lever was held in place by the operator. Adjustment of end play of the clutch shaft was made in an unsuccessful attempt to correct the trouble. No other repairs or adjustments were necessary.

Except as noted above the tractor was in good condition at the close of the test and there were no indications of undue wear in any part which might require early repair.

#### BRIEF SPECIFICATIONS

Hart-Parr 16 - 30

Motor: Own, 2 cylinder, horizontal, valve-in-head, mounted crankshaft crosswise. Bore 6-1/2", stroke 7". Rated speed, 750 r.p.m. Madison-Kipp lubricator. Own make fly-ball type governor. United (whirling vane type) dry air cleaner.

Chassis: Four wheels, two drivers, enclosed gear drive. Dry disc clutch. Two speeds: low, 2.00 miles per hour; high, 3.00 miles per hour.

Total weight as tested (with operator) - 6000 lbs.

#### REMARKS

In the advertising literature submitted with the applications for test of this tractor, we find some claims and statements which cannot be directly compared with the results of this test as reported above. It is our opinion that none of these are excessive or unreasonable.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 106.

E. E. Brackett  
Engineer in Charge

Oscar W. Sjogren

C. W. Smith

Fred R. Nohavec

Board of Tractor Test Engineers.